

**JP03053114****POSITION DETECTOR**

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**Abstract:** PURPOSE: To always accurately detect a position by detecting the extent of displacement between a scale and a detecting head as the absolute position in accordance with the absolute position of resolution  $\lambda/l$  ( $\lambda$  is the pitch, and  $l$  is an integer  $\geq 2$ ), the absolute position in one pitch, and a correction value.

CONSTITUTION: The resolution of a gray code 37 is determined to satisfy  $\lambda/l$  where  $\lambda$  is the pitch of graduations 36. The phase detection signal and the absolute position signal from a detecting head 38 are supplied to a phase detecting circuit 41 and an absolute position code detecting circuit 42. A phase quantity  $\theta$  corresponding to graduations 36 is detected by the circuit 41, and an absolute position  $\Delta x$  in one pitch  $\lambda$  of graduations 36 is calculated and is supplied to correction position and absolute position calculating circuits 43 and 44. Absolute position data  $N$  corresponding to the code 37 is detected by the circuit 42 and is supplied to circuits 43 and 44. A correction value  $\Delta F$  is calculated in the circuit 43 and is supplied to the circuit 44, and an extent ( $x$ ) of relative displacement (absolute position) based on origins of a scale 35 and a head 38 is calculated in the circuit 44. This calculated position ( $x$ ) is supplied to a display device 45.

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